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ABSTRACT

The study reported here examined the long term performance of three groups of children who attended the Head Start program in the Montgomery County (Maryland) Public Schools. The students attended Head Start as preschoolers in 1970-71, 1974-75, and 1978-79, and were in grades 4, 8, and 12, respectively, during the 1983-84 school year. The following two research questions were addressed: (1) does participating in Head Start have any long term effects, and (2) how does the long term performance of the Head Start graduates compare to that of other students in the school system. The study examined the impact of Head Start participation (question 1) by comparing the performance of students who attended Head Start with that of a group of students who applied to Head Start but were not admitted. Overall performance (question 2) was assessed by comparing the performance of Head Start graduates to that of all other students in the school system born in the same year. Specifically examined were the following: grade retentions, special education placements, standardized test performance, grades, type of courses selected (honors, remedial), and attendance. Findings generally indicated positive effects for all three groups, although weak design prevented the effects from being seen in the fourth and eighth grade groups. (DST)

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FOLLOW-UP STUDY OF THREE COHORTS OF HEAD START GRADUATES

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Summary

The study reported here examined the long term performance of three cohorts of Head Start graduates who were in Grades 4, 8, or 12 in school year 1983-84. Outcomes for the Head Start graduates were compared with those of another group of students who had applied for Head Start but did not attend. A positive effect for Head Start participation was found for the oldest group on a number of different measures. The findings for the two younger cohorts were in the same direction, although the evidence was weak. Even with the assistance of Head Start, however, a large percentage of the Head Start graduates went to experience academic difficulties in later years.

Objective

The purpose of the study was to examine the long term performance of students who participated in our school system's Head Start program as preschoolers. Two study questions were addressed:

(1) Does participating in Head Start have any long term effects?
(2) How does the long term performance of the Head Start graduates compare to that of other students in the school system?

Support for the long term effectiveness of early education has been provided through the work of Lazar and his colleagues (1982) in their much-cited examination of graduates of eleven different preschool programs. The graduates of one of these projects, the Perry Preschool Project, have also been the focus of several other follow-up studies which included a cost-benefit analysis of the effects early intervention (Berreuta-Clement et al., 1984). All of these programs were university-administered programs designed for the purposes of conducting research. Their impressive findings still leave unanswered the question of whether local programs for children from low income families such as those run by school systems and community agencies can have a substantial impact on participants' educational attainments. This question is particularly important for Head Start, one of the few legacies of the War on Poverty which has continued to receive federal support. While studies have shown support for the short term impacts of Head Start, the data on long term effects are scanty (Harrell, 1983).

The research reported here collected follow-up data on three cohorts of children who attended the Head Start program in the Montgomery County (Maryland) Public Schools. The students attended Head Start in 1978-79, 1974-75, or 1970-71. For school year 1983-84, these students were in fourth, eighth, or twelfth grade respectively. The study examined the impact of Head Start participation (Question 1) by comparing the performance of students who attended Head Start with a group of comparison students who applied to Head Start but were not admitted to the program. The study assessed the overall performance of the Head Start students (Question 2) by comparing their performance to that of all other students in the school system who were born in the same year as the Head Start students. A number of outcome measure were examined including: retentions in grade, special education placements, performance on standardized tests, grades, type of courses selected (honors, remedial), and attendance.

Methodology

Sample. The number of Head Start and comparison students initially available and the percentage enrolled for 1983-84 are shown in Table 1.

Table 1

Past and Current Enrollment

	Number of Students At Time of Head Start		Percentage Enrolled For 1983-84	
	Head Start	Comparison	Head Start	Comparison
1970-71	458	153	64	41
1974-75	852	314	54	36
1978-79	605	152	68	35

The actual rates of attrition from year-to-year were similar for the Head Start and comparison groups. The major difference was that a sizable percentage of the comparison group never enrolled in the school system at all. An analysis of the available demographic data showed that the comparison students were from families with higher socioeconomic status. Data on family income and mother's education for the two groups are shown in Table 2.

Table 2

Socioeconomic Data

	Average Income		Aver. Mother's Education[a]	
	Head Start	Comparison	Head Start	Comparison
1970-71	4685	6737**	2.4	2.7**
1974-75	7675	11207**	2.9	3.5**
1978-79	8084	9120	2.9	3.5*

[a]Coded on a 7-point scale; 2=some high school, 3 = high school graduate.
*$p<.05$
**$p<.01$

Data Collection Procedures. Data for the two younger cohorts were extracted from the computerized pupil data base. Data for the twelfth graders were collected from the data base and through reviews of their student records. Data for the other students in the school system (Question 2) were taken from the pupil data base.

Analytic Approach. An analysis of covariance was used to compare the performance of the Head Start and comparison groups. The covariates were the demographic data collected at the time the family applied to Head Start including family income, mother's education, mother's occupation, number of parents living with child, number of people in the household, and per person income. The independent variables examined were sex, racial/ethnic group, and status with regard to Head Start participation.

The comparison between the Head Start group and the other students in the school system was done by looking at the frequencies for certain events or the mean test scores.

Results

The results for the three cohorts of Head Start graduates and their respective comparison groups are summarized in Table 3. The overall pattern of findings indicated that the students who attended Head Start in 1970-71 did much better then the comparison group who had not attended. Statistically significant differences were found for the Head Start class of 1970-71 on the following measures*:

- Grade 3 Iowa Test of Basic Skills
- Grade 5 Cognitive Abilities Test
- Grade 5 Iowa Test of Basic Skills
- Grade 7 Cognitive Abilities Test
- Grade 11 California Achievement Test
- Percentage of students retained by Grade 10 (34% Head Start vs. 55% comparison group)
- Percentage of students in honors courses in Grade 11
- Average percentage of courses with A's and B's in 1981-82 (28% for Head Start vs. 17% for the comparison group)
- Average percentage of courses with low grades in 1981-82 (42% for Head Start vs. 57% for the comparison group)
- Percentage of students with an overall ranking of average or above (30% Head Start vs. 19% comparison group)
- Composite measure, i.e., retained by Grade 12, in high level special education between Grades 8 and 12, or scored below the 40th percentile on the Grade 11 California Achievement Test (67% Head Start vs. 99% comparison group)

The findings from the fourth and eighth graders (the Head Start classes of 1974-75 and 1978-79 respectively) hinted at the possibility of a positive effect for Head Start but the evidence was weak. The only statistically significant difference for the 1974-75 group was the percentage of students below the 40th percentile on the fifth grade California Achievement Test

*All data were adjusted for demographic differences between the two groups.

TABLE 3

Numerical and Statistically Significant
Differences for Each Cohort

Measure	Cohort 1970-71 Num. Diff.[a]	1970-71 Stat. Signif.[b]	1974-75 Num. Diff.	1974-75 Stat. Signif.	1978-79 Num. Diff.	1978-79 Stat. Signif.
Achievement Tests[c]						
Average						
Grade 3	H	N	-	-	H	N
Grade 5	H	N	S	N	-	-
Grade 7/8	H	N	S	N	-	-
Grade 11	H	Y	-	-	-	-
% High Scorers						
Grade 3	H	Y	-	-	H	N
Grade 5	H	Y	C	N	-	-
Grade 7/8	H	Y	C	N	-	-
Grade 11	H	N	-	-	-	-
% Low Scorers						
Grade 3	H	N	-	-	S	N
Grade 5	H	N	H	Y	-	-
Grade 7/8	H	N	H	N	-	-
Grade 11	H	Y	-	-	-	-
Retention						
By Grade 4	H	N	-	-	S	N
By Grade 8	H	N	S	N	-	-
By Grade 11	H	N	-	-	-	-
Special Education						
Grade 4	C	N	-	-	S	N
Grade 8	C	N	S	N	-	-
Grade 11	C	N	-	-	-	-

Note: Data were not available on all mesures for every cohort and grade level.

a. Numerical difference favored: H = Head Start Group
C = Comparison Group
S = Same, i.e., difference did not exceed two points on a hundred point scale

b. Difference between the Head Start and comparison group was statistically significant: Y=Yes N=No

c. Test scores from Grade 8 were used for the 1974-75 cohort.

TABLE 3 (Continued)

Measure	Cohort 1970-71 Num. Diff.[a]	1970-71 Stat. Signif.[b]	1974-75 Num. Diff.	1974-75 Stat. Signif.	1978-79 Num. Diff.	1978-79 Stat. Signif.
Composite Measure						
Grade 4	-	-	-	-	S	N
Grade 8	-	-	H	N	-	-
Grade 12	H	Y	-	-	-	-
Attendance						
Grade 4	S	N	-	-	-	-
Grade 7	S	N	-	-	-	-
Grade 10	H	N	-	-	-	-
Special Help						
Grade 10	H	N	-	-	-	-
Course Selection						
Advanced Courses						
Grade 10	S	N	-	-	-	-
Grade 11	H	Y	-	-	-	-
Remedial Courses						
Grade 10	H	N	-	-	-	-
Grade 11	H	N	-	-	-	-
Grades						
A & B's						
1980-81	H	N	-	-	-	-
1981-82	H	Y	-	-	-	-
Low Grades						
1980-81	H	N	-	-	-	-
1981-82	H	Y	-	-	-	-
GPA	H	N	-	-	-	-
Questionable Withdrawals	H	N	-	-	-	-
Rank						
Average	H	N	-	-	-	-
% above "Average"	H	Y	-	-	-	-

Note: Data were not available on all mesures for every cohort and grade level.

a. Numerical difference favored: H = Head Start Group
C = Comparison Group
S = Same, i.e., difference did not exceed two points on a hundred point scale

b. Difference between the Head Start and comparison group was statistically significant: Y=Yes N=No

(33% Head Start to 48% comparison group). For the 1978-79 group, the only statistically significant difference was the percentage of students above the 80th percentile on the Verbal subtest of the Grade 3 Cognitive Abilities Test. This Head Start group also had a larger percentage of high scorers on the other two subtests and the Total score on the California Achievement Test and a higher mean score on all subtests of both tests but these differences were not statistically significant. For all three years of Head Start graduates, there were a number of measures which favored the Head Start group but the differences were not statistically significant. There was not a single measure for any of the three Head Start cohorts with a statistically significant difference which favored the comparison group.

Before discussing how the Head Start students did compared to the rest of the school system, it should be pointed out that Montgomery County is a high income, high achieving school district. The mean family income is around $40,000 and about half the students score above the 85th percentile on standardized tests. One hypothesis about the performance of low income students in such a district would be that they would be "carried along with the tide" so to speak and also do well. An alternative hypothesis is that the contrast between low income students and the other students in the district might be so great that the low income students would suffer in the comparison.

The bad news for the Head Start students was that while they did better than a comparable group that did not attend the program, their overall performance was nevertheless poor. On a ranking measure which incorporated a number of indicators of school performance, 40% of the Head Start sample from 1970-71 was classified by 1983-84 as having "serious problems" which was the bottom point on the scale.* Another 34% percent were classified as "poor" or "low average" students. In comparison to the other district students born in 1966, proportionately about twice as many of the Head Start graduates from 1970-71 had been retained, nearly four times as many had been in a special class or special school during the preceding four years, and nearly five times as many had scored low on the Grade 11 California Achievement Test.

Examining the data across the three cohorts showed that students from low income families performed poorly regardless of grade level. These data are presented in Table 4. The percentage of students placed in special education classes for the Head Start graduates born in 1966, 1970, and 1974 were 19, 17 and 12, respectively. The comparable percentages for the other students in the school system were 5, 5, and 4. The percentages of students who scored below the 40th percentile on their most recent California Achievement Test were 56, 30, and 34 respectively. The percentages for the other students were 12, 8 , and 10.

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*Examples of students classified as having "serious problems" included: students with GPA's below 1.49 who were taking four or more remedial courses; students who had been retained twice; students who had been in a special school for three or more years; students who had been in a special class for ten or more years; or students who had dropped out or been removed from school.

TABLE 4

Outcomes for Students
Born in 1966, 1970, and 1974

	Born in 1966		Born in 1970		Born in 1974	
	Head Start %	Other MCPS %	Head Start %	Other MCPS %	Head Start %	Other MCPS %
Not in age-appropriate grade placement	27 (N=177)	13 (N=5913)	22 (N=388)	12 (N=5584)	26 (N=362)	12 (N=3682)
In Level 4 or more special education	19 (N=218)	5 (N=6168)	17 (N=460)	5 (N=5847)	12 (N=410)	4 (N=3841)
Below grade level or in Level 4 or more special education	41 (N=218)	17 (N=6168)	35 (N=460)	17 (N=5847)	34 (N=410)	15 (N=3841)
Below 40th percentile Total Battery, California Achievement Test[a]	56 (N=124)	12 (N=4885)	30 (N=293)	8 (N=4547)	34 (N=272)	10 (N=3199)
Below grade level or in Level 4 or more special education or below 40th percentile	74 (N=205)	27 (N=5869)	54 (N=437)	24 (N=5474)	55 (N=399)	23 (N=3723)

Note: Only students enrolled continuously for the last four years are included. Percentages were computed only on students who did not have missing data for a category, i.e., the number in parentheses below the percentage.

a. Born in 1966 - Administered in Grade 11.
Born in 1970 - Administered in Grade 8.
Born in 1974 - Administered in Grade 3.

Discussion

The results of this study support what is becoming a common place finding: that early childhood education, in this case a Head Start program administered by a local school system, can have a positive impact on the educational achievements of children from low income families. Given the pre-existing differences between the Head Start and comparison groups and the gross nature of the covariates available to "correct" for these differences, it is possible the effect of participating in Head Start was even larger than the findings indicated. It may also be true that there were positive effects for all three cohorts but that the weak design prevented the effects from being seen for the two younger groups.

On the other hand, the findings about the overall performance of the Head Start students should serve as a reminder that early childhood education is not in any sense a "cure-all" and that students from low income families still go through elementary and secondary school with many strikes against them. The interest in academic problems of these students appears to have subsided over the last five or ten years. The research into this problem has fallen out of favor -- right along with money for programs which might represent possible solutions. Although the zeitgeist of bygone days has nearly vanished, the problem has not. When one examines the findings on long term effects of early education from other studies, it is obvious that a substantial percentage of the experimental groups in these studies had serious academic and social problems which leads me to conclude that the finding about poor performance is not just unique to Montgomery County. Early education represents one part of an approach to dealing with the problems of low income students but it bears emphasizing that it is only a tiny part. Improving performance in this case is not the same thing as bringing performance up to an acceptable level. The later should still a goal for all students and that goal has not yet been achieved for students from low income famiies - even with early education.

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